

## ABSTRACT OF THE DISCLOSURE

An acoustic gas analyzer for gas mixture has an acoustic velocity meter that provides a first output dependent on a detected transmission of acoustic energy through a gas to be analyzed, a temperature probe having a probe time constant that provides a second output indicative of a measured temperature of the gas, and a calculation unit that receives the first and the second outputs and determines compositional information of the gas therefrom. A signal processor is connected between the acoustic velocity meter and the calculation unit and temporally adapts the amplitude of the first output from the meter in a manner dependent on the probe time constant and provides a temporally adapted first output for use as the first output within the calculation unit.

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